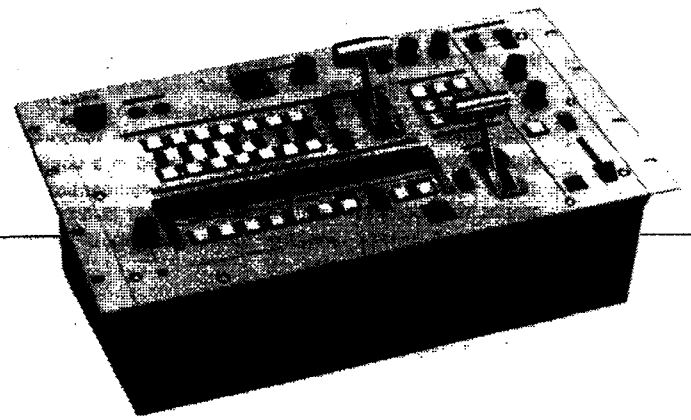
SONY

SPECIAL-EFFECTS GENERATOR

SEG-2000A

OPERATING INSTRUCTIONS page 2

Before operating the unit, please read this manual thoroughly and retain it for future reference.



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English

The Sony SEG-2000A special-effects generator can apply a wide variety of special effects, such as mixing, wiping, keying and downstream keying, to a video program from cameras, etc., and output the resulting program.
The SEG-2000A is also designed for portable use.

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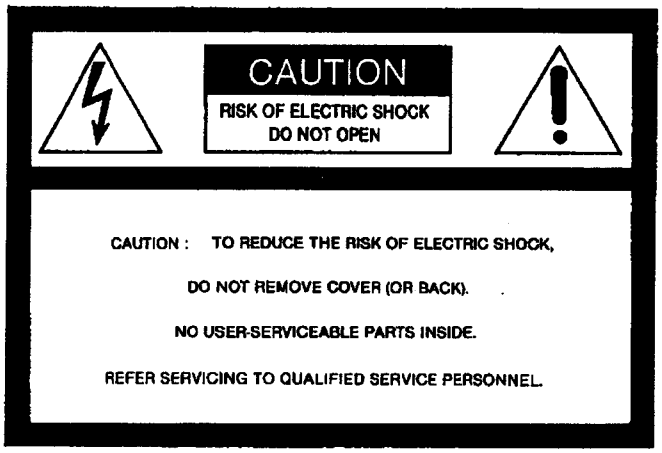
OWNER'S RECORD

The model and serial numbers are located at the rear. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. SEG-2000A Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

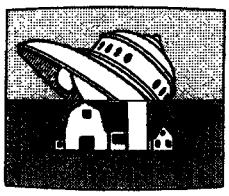
Warning—This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

This apparatus complies with the Class A limits for radio noise emissions set out in Radio Interference Regulations.

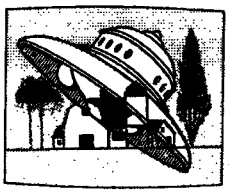
FEATURES

Wide variety of inputs and outputs
The SEG-2000A is equipped with various connectors:
Six video source inputs and an auxiliary video input, an external wipe signal input, an external key input, a B & W camera input for downstream keyer and a gen-lock input. Three program outputs and two preset outputs, seven video outputs, four black burst outputs and a V drive output. Four tally intercom connectors are also provided.

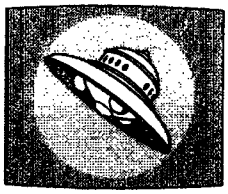
Wipe
Six wipe patterns are available. The edge of the wipe pattern can be soften, sharpened or given a colored border as desired.



Cut in and mixing
Instantaneous program transition—cut in—or gradual transition of one program to another—mix—is possible.



External key
The A and B bus pictures may be keyed with a video signal or key signal from a camera, etc. connected to the EXT KEY IN connector.



Downstream keyer
Letters or figures from a monochrome camera can be key-inserted in the program and preset pictures. For easier viewing, shadows can be produced on the downstream keying signal.

Background color
A built-in background color generator permits color background for keying, for the border of the wipe pattern, etc. Hue, chroma and luminance of the background color are continuously adjustable, so that a precise color can be obtained.

Easy phase adjustment
The H and SC phase difference between the SEG and the connected equipment can be easily adjusted by observing the indicator pattern displayed on the preset monitor screen.

3-way power operation
The unit can be powered by ac house current, BP-60 rechargeable battery packs or an external dc source.

Rack mounting
The unit is designed to be mounted in a 19-inch EIA standard rack.

Portability
The unit can be used outdoors when it is installed in an optional LC-2006 carrying case and powered by BP-60 rechargeable battery packs.

Micro computer control
Operations are controlled by the built-in micro computer.

PRECAUTIONS

On safety

- For ac operation, operate the unit only on 120 V ac, 50/60 Hz. For dc operation, use the BP-60 battery pack or a dc power source of 10 – 24 V.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time.
- To disconnect a cord, pull it out by the plug. Never pull the cord itself.

On installation

- Allow adequate air circulation to prevent internal heat buildup. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation slots.
- Do not install the unit near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust or mechanical vibration or shock.
- Keep the unit away from equipment with strong magnets, such as speakers.

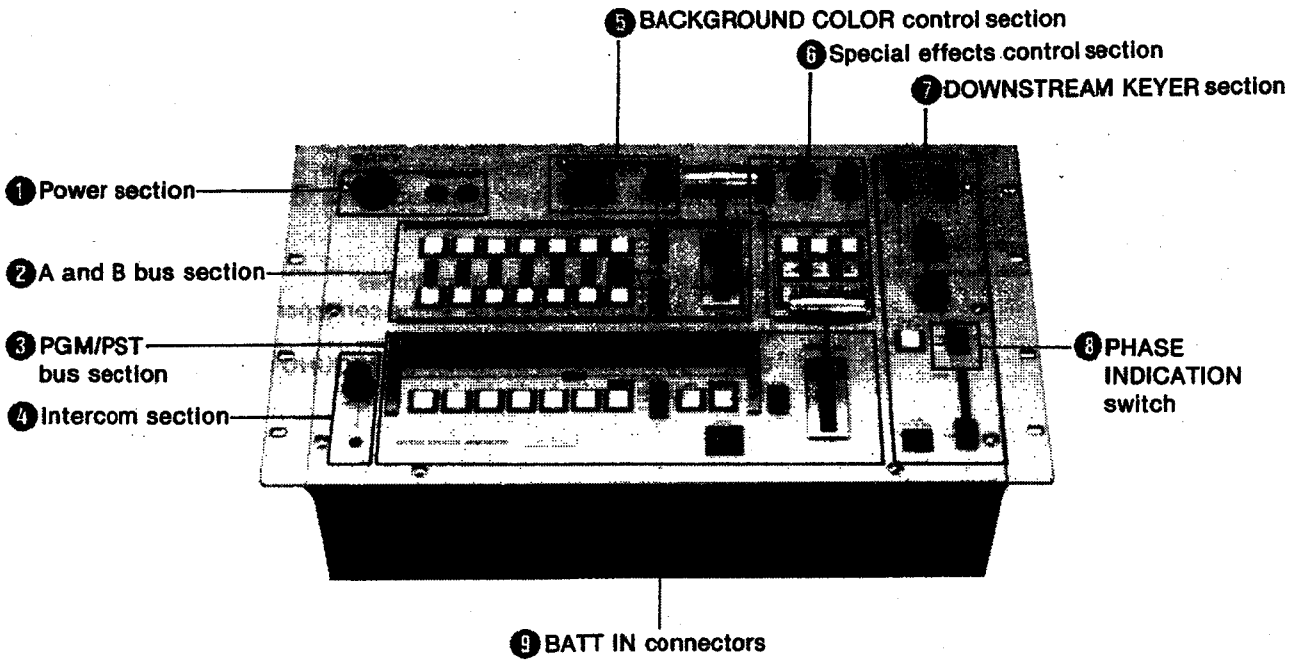
On cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent such as alcohol or benzine which may damage the finish.

If you have any questions about this unit, contact your Sony dealer.

LOCATION AND FUNCTION OF PARTS AND CONTROLS

CONTROL PANEL

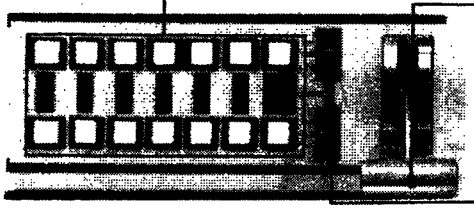

❺ BACKGROUND COLOR control section
❻ Special effects control section
❼ DOWNSTREAM KEYER section
❶ Power section
❷ A and B bus section
❸ PGM/PST bus section
❹ Intercom section
❽ PHASE INDICATION switch
❾ BATT IN connectors

❶ Power section

BATT (battery) meters and low voltage alarm lamps
The BATT 1 and 2 meters show the condition of the BP-60 rechargeable battery packs connected to the BATT IN 1 and 2 connectors during battery operation. When the voltage supplied from a rechargeable battery pack falls below the rated value, the corresponding lamp will blink and after a few minutes the power will be interrupted. When a lamp or lamps start blinking, replace the battery or batteries.

POWER switch
Select the power source with this switch. When the unit is not being used, set the switch to OFF.
AC: For use with an ac power source.
OFF: To turn the unit off.
BATT: For use with rechargeable battery packs.
EXT. DC: For use with an external dc power source connected to the EXT DC IN connector.

❷ A and B bus section

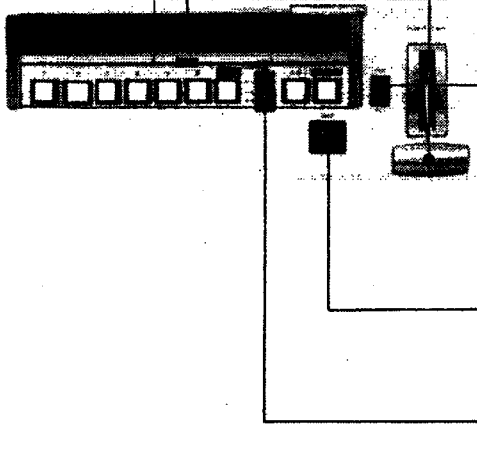


A and B bus buttons
Select the desired video inputs or the built-in color generator for special effects. The pressed buttons will light up and the button of the input selected as the program output will blink.

Special effects control lever
Gradually replaces the A bus picture with the B bus picture, or vice versa, when the MIX or WIPE EFFECTS SELECT button is engaged. When the lever is moved to the uppermost position, the A bus picture will be obtained and when the lever is moved to the lowermost position, the B bus picture will be obtained.

BACKGROUND mode select switches
Select the background color of the corresponding bus.
WHT: White
COL: Color selected by the BACKGROUND COLOR joystick.
BLK: Black

❸ PGM/PST (program/preset) bus section



PST bus buttons
Selects the desired PST bus outputs from the PST OUT connectors when the PGM/PST switch is set to PST. The PGM bus outputs from the PGM OUT connectors are selected simultaneously when the PGM/PST switch is set to PGM.
The pressed button will light up.

PGM bus indicator
The input selected as the program output from the PGM OUT connectors is indicated here.

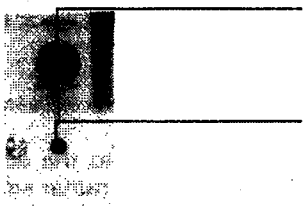
PGM/PST MIX lever
Gradually replaces the PGM bus picture with the PST bus picture, or vice versa.
● This lever will function only when the PGM/PST switch is set to PST.

PGM/PST switch
PGM: Set to this position when the PST and PGM bus outputs are to be selected simultaneously by a PST bus button.
PST: Set to this position when only the PST bus output is to be selected by a PST bus button.
● When you want to adjust the phase, be sure to set this switch to PGM and the PHASE INDICATION switch to ON.

TAKE button
Instantaneously switches the PST bus picture to the PGM bus picture.
● This button will function only when the PGM/PST switch is set to PST.

BACKGROUND mode select switch
Selects the background color.
WHT: White
COL: Color selected by the BACKGROUND COLOR joystick.
BLK: Black

❹ Intercom section



INTERCOM LEVEL control
Adjusts the received sound level from the other video unit at the headset connected to the INTERCOM connector.

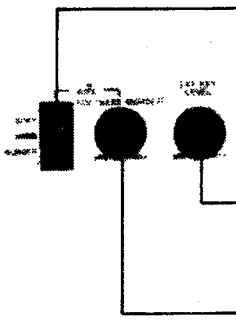
INTERCOM connector (mini intercom jack)
Connect the Sony DR-100 intercom headset (optional) here to allow communication between the SEG-2000A and the video equipment connected to the rear TALLY/INTERCOM connectors.

❺ BACKGROUND COLOR control section

BACKGROUND COLOR joystick
Adjusts the hue of the background color by rotating and the chroma level by tilting.

LUM (luminance) control
Adjusts the brightness of the background color. Clockwise rotation brightens the color.

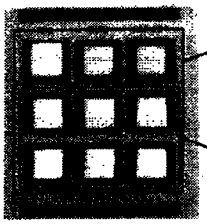
❻ Special effects control section



WIPE edge selector
SOFT: To soften the edge of the wipe pattern.
HARD: To sharpen the edge of the wipe pattern.
BORDER: To border the edge of the wipe pattern. The border color is the complementary color (color supplied when the joystick is rotated 180°) of the color selected by the BACKGROUND COLOR joystick.

EXT KEY LEVEL control
Adjusts the key level of the input signal connected to the EXT KEY IN connector.

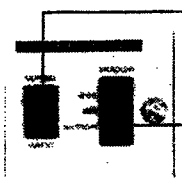
WIPE SOFTNESS/BORDER control
This control adjusts the softness of the edge of the wipe pattern when the WIPE edge selector is set to SOFT and it adjusts the width of the border of the wipe pattern when the WIPE selector is set to BORDER.



EFFECTS SELECT buttons
MIX: To mix the A and B bus pictures.
WIPE: To wipe the A bus picture with the B bus picture, or vice versa, using the wipe pattern selected by the wipe pattern buttons.
EXT KEY: To key the A and B bus pictures using the input signal from the EXT KEY IN connector.

Wipe pattern buttons
Select the wipe pattern.

❼ DOWNSTREAM KEYER section



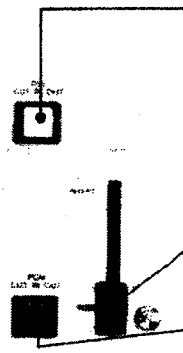
NORMAL/INVERT switch
NORMAL: When keying black letters against a white background.
INVERT: When keying white letters against a black background.

SHADOW switch
WIDE: To produce a wide shadow to the downstream keying signal.
OFF: No shadow.
NARROW: To produce a narrow shadow to the downstream keying signal. When the letters to be keyed are rather small, use this position.

KEY LEVEL control
Adjusts the downstream keying level.

INSERT LEVEL control
Adjusts the brightness level of the insert signal. Turn the control to the right to obtain white letters and to the left to obtain black letters.

At this position, the level is 700 mV. If the control is turned counterclockwise into the black zone, the level may be too high.



PST CUT IN/OUT button
Press to cut in or cut out the keying signal from the B & W camera connected to the B/W CAMERA connector on the PST bus picture.
The button lights when the letters are inserted.

INSERT lever
Move the lever upwards (to INSERT) to gradually insert the letters to the PGM bus picture and move the lever downwards (to PGM) to remove the letters. At the PGM position no letter will appear.
When the letters are inserted, the PGM CUT IN/OUT button will light up.

PGM CUT IN/OUT button
Press to cut in or cut out the letters to the PGM bus picture.
The button lights when the letters are inserted.

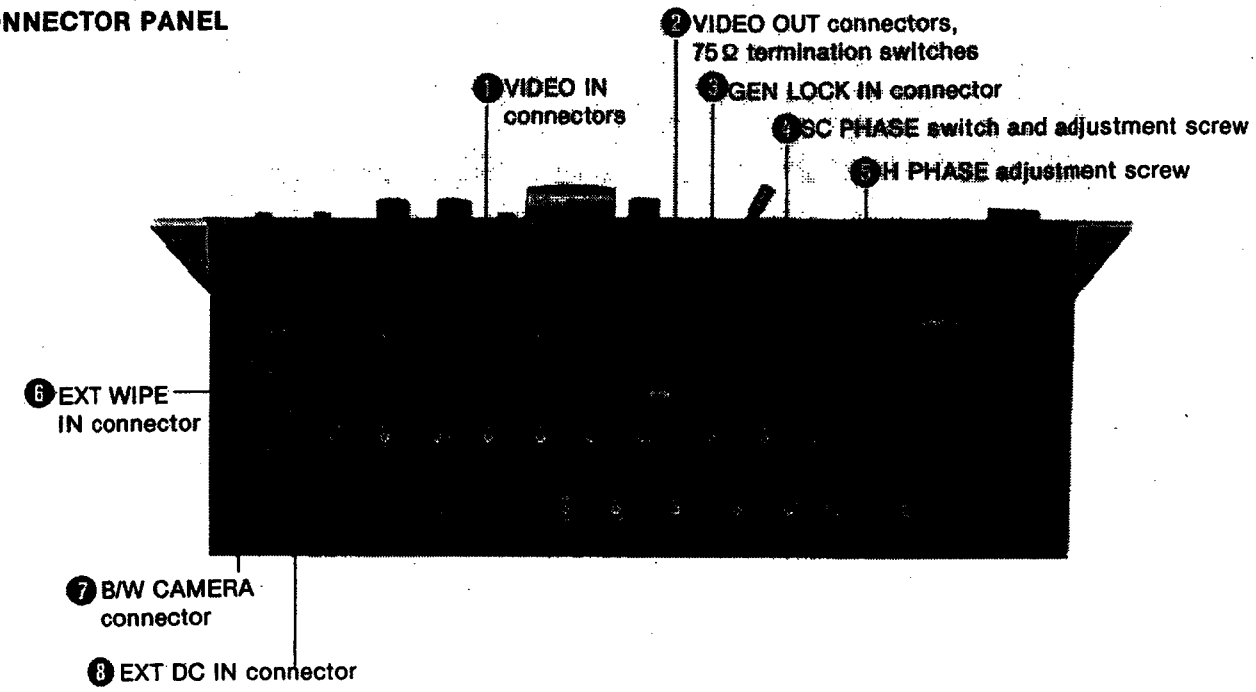
❽ PHASE INDICATION switch

For phase adjustment between the SEG and the connected equipment, set this switch to ON and set the PGM/PST switch to PGM. The phase indicator pattern will appear on the preset monitor screen. Use this pattern as a guide for phase adjustment. See page 14.

❾ BATT (battery pack) IN connectors

To operate the SEG with battery packs, connect Sony BP-60 battery packs (optional) to these connectors.

CONNECTOR PANEL


❷VIDEO OUT connectors, 75Ω termination switches
❶VIDEO IN connectors
❸GEN LOCK IN connector
❹SC PHASE switch and adjustment screw
❺H PHASE adjustment screw
❻EXT WIPE IN connector
❼B/W CAMERA connector
❽EXT DC IN connector

❶ VIDEO IN connectors (BNC type)
Connect video signals from video cameras, VTRs which are connected to time base correctors, etc.
1 to 6 connectors: The input signals to these connectors should be synchronized with the SEG-2000A.
AUX connector: An input signal which is not synchronized with the SEG-2000A can be connected here. Connect the VTR directly.
EXT KEY connector (75-ohm termination): Connect a keying signal which is synchronized with the SEG-2000A here for external key operation.

❷ VIDEO OUT connectors (BNC type) and 75Ω termination switch
The video signals connected to the above VIDEO IN connectors are fed out from these connectors (loop-through output). Connect to the video input connectors on a monitor to monitor the video signal connected to the VIDEO IN connector directly.
●Be sure to set the 75Ω termination switch to OFF when these connectors are used. When they are not being used, set this switch to ON.

❸ GEN LOCK IN (generator lock input) connector (BNC type)
Connect a reference VBS or black burst signal to this connector to synchronize the SEG-2000A with an external sync signal. All equipment connected to the SEG will then be synchronized with this reference signal.

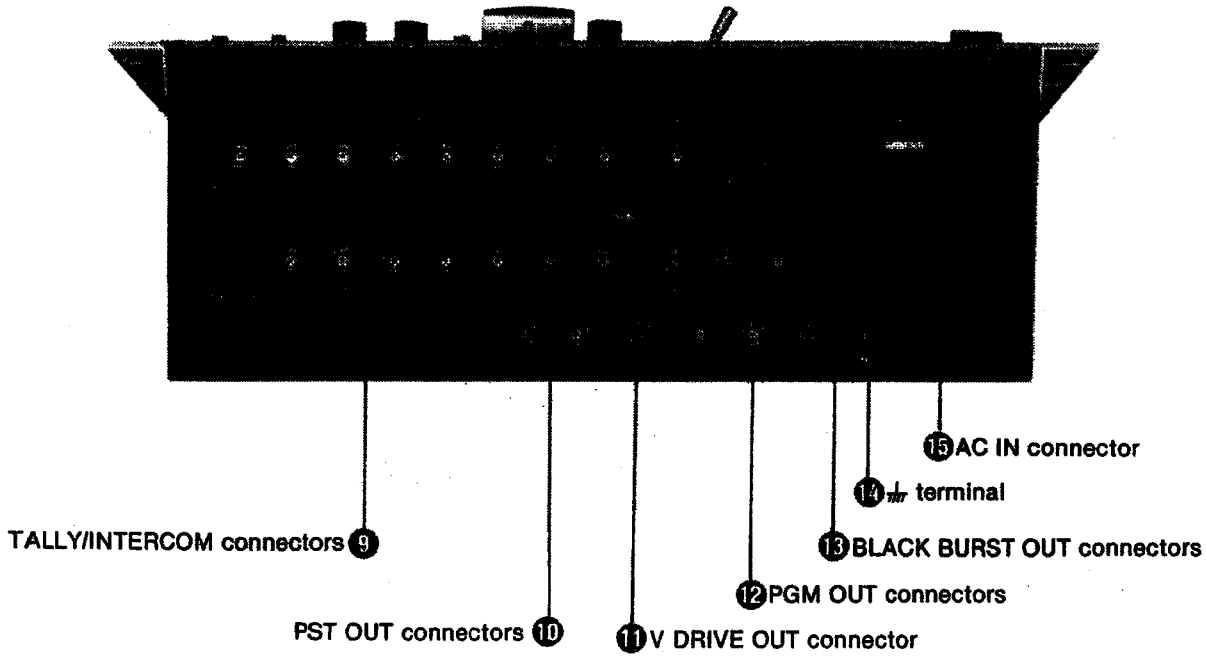
❹ SC PHASE switch and adjustment screw
This switch roughly adjusts the subcarrier phase of the PGM output signal to the subcarrier phase of the gen-lock reference signal.
After rough adjustment with the SC PHASE switch, adjust the SC phase precisely with the adiustment screw.

❺ H PHASE adjustment screw
Turn to adjust the H phase of the PGM output signal to that of the gen-lock reference signal.

❻ EXT WIPE IN (external wipe signal input) connector (DIN 6-pin)
Connect the optional Sony WEX-2000 wipe pattern extender. Selection from 84 wipe patterns and wipe operation can be performed on the WEX-2000.

❼ B/W CAMERA (black and white camera) connector (6-pin)
For downstream keyer operation, connect a B & W camera with a 6-pin connector using a CCF camera cable.

❽ EXT DC IN (external dc input) connector (DIN 4-pin)
For external dc power operation, connect a dc power source (10 – 24 V dc) here.



⑨ TALLY/INTERCOM connectors (DIN 4-pin)
Connect to the tally/intercom connector of a camera or a camera control unit using a CCDD cable. When a headset is connected to the INTERCOM connector on the front panel, the communication between the SEG and the camera operators is possible. The tally lamp of the camera selected by the SEG will light up.
- The TALLY/INTERCOM 1 to 4 connectors correspond to the VIDEO IN 1 to 4 connectors.
- The tally circuit incorporates a relay with a maximum pick-up value of 24 V, 200 mA DC.

⑩ PST OUT (preset output) connectors (BNC type)
These connectors output the preset picture signals selected by the PST bus button.
Connect to the video inputs on monitors.

⑪ V DRIVE OUT (vertical drive output) connector (BNC type)
A 4 V p-p vertical drive signal is output here.

⑫ PGM OUT (program output) connectors (BNC type)
Connect to the video inputs of monitors, VTRs, etc.

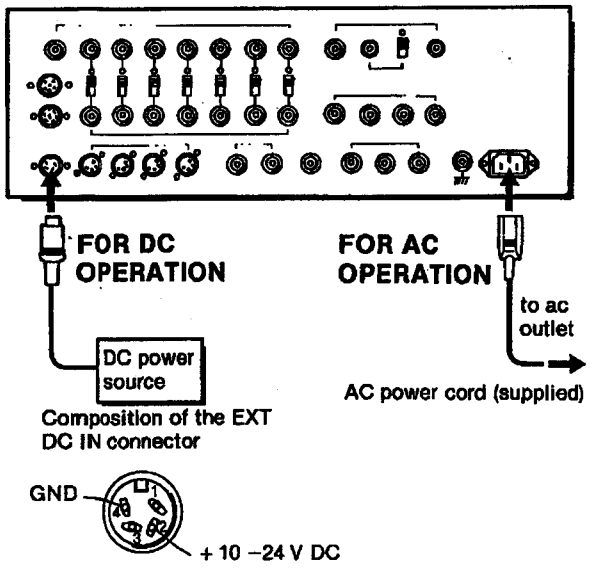
⑬ BLACK BURST OUT connectors (BNC type)
Black burst (sync 0.3 V p-p, burst 0.3 V p-p) signals are output here. Connect these outputs to the GEN LOCK IN connectors of the video equipment being used so that the equipment will be synchronized with the SEG-2000A. The same black burst signal is output at each connector in parallel. The 1 to 4 connectors are independent of the VIDEO IN 1 to 4 connectors.

⑭ ⏚ (ground) terminal
Connect to a good ground when required.

⑮ AC IN connector
Connect the supplied ac power cord here.

POWER SOURCES

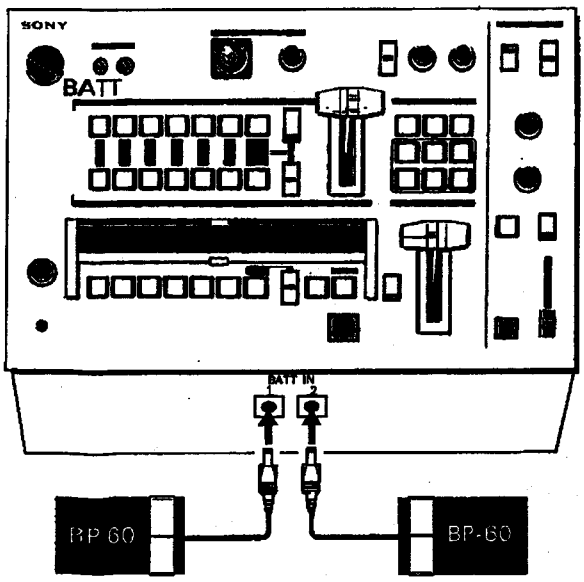
The SEG-2000A operates with the power from any of these three sources.
—AC power
—BP-60 battery pack
—DC power source of 10 V – 24 V



Note
When the SEG-2000A operates with the dc power, some connection may cause noises on the picture when the camera control units, monitors, etc. are connected. For details, please consult the Sony dealer from whom this unit was purchased.

BATTERY PACK

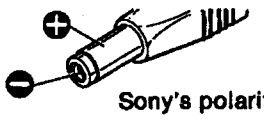
Connect the BP-60 battery packs to the BATT IN connectors.



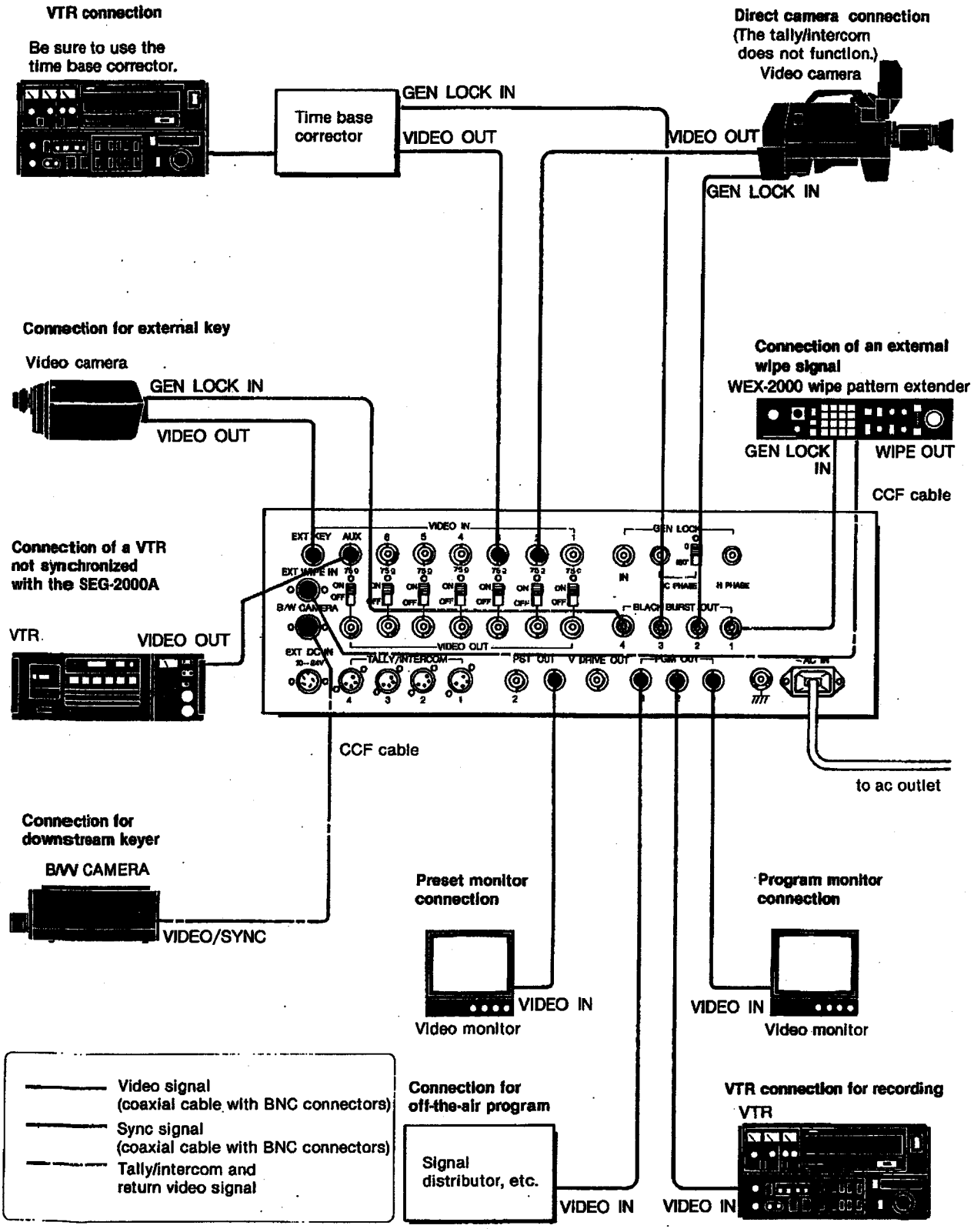
●The LC-2006 carrying case (optional) is convenient for carrying the SEG-2000A with two battery packs for portable operation.

Battery life
Two fully charged batteries allow about two and one half hours of continuous operation at normal temperature. Operation with a battery pack is, of course, possible.
The two batteries operate in series. When the voltage of one of them falls below the rated value, the BATT lamp flickers, the battery meter registers the red scale and after a few minutes the power from that battery is automatically shut off.
To replace the exhausted battery with a charged one, be sure to set the POWER switch to OFF. If the battery is replaced while the other battery is supplying the power, the noise may appear.

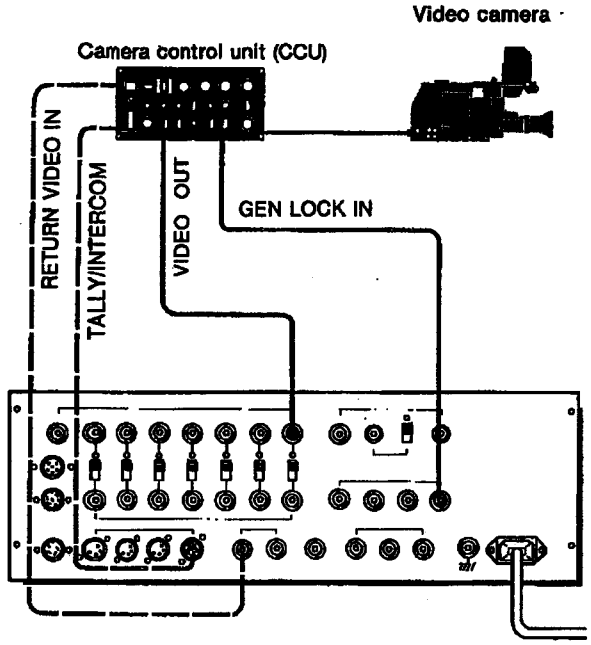
Notes on batteries
●The operating life of the battery will be shortened when it is very cold or when it is exhausted. When the operating period of a recharged battery is less than 30 minutes at normal temperature, the battery should be replaced with a new one.
●Charge the battery immediately after use using the BC-20 or BC-1000 battery charger. Do not permit the battery to remain discharged.
●When the battery pack is not used for a long time, be sure to recharge it every six months.
●Do not use any battery pack other than that manufactured by Sony. Polarity of the battery plug of other packs may differ.


Sony's polarity

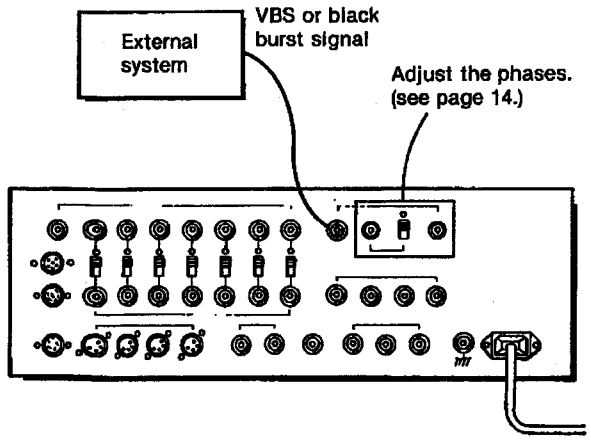
CONNECTIONS



TO CONNECT A CAMERA USING A CCU

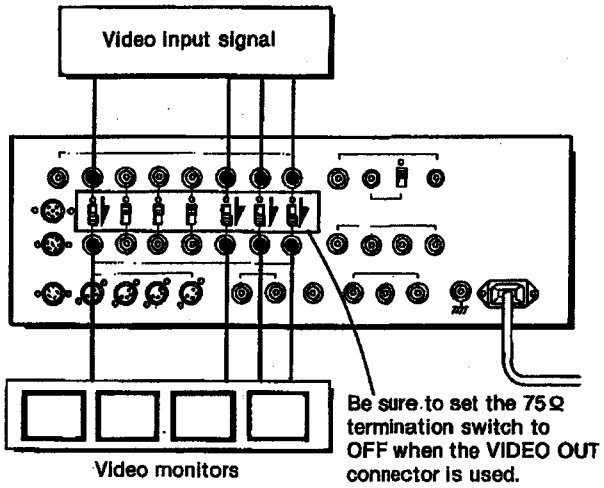


TO SYNCHRONIZE THE SEG-2000A WITH AN EXTERNAL SYSTEM



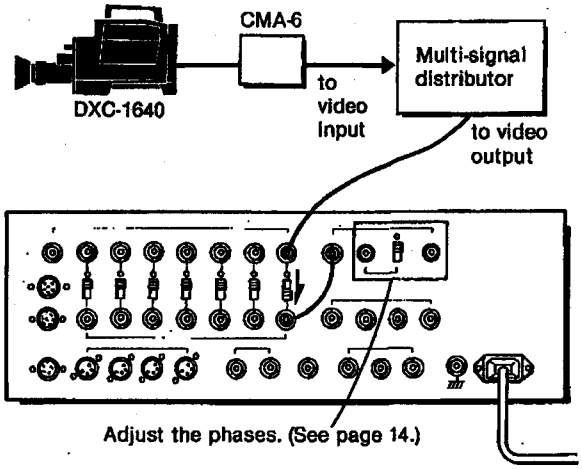
CONNECTION FOR DIRECT MONITORING

To monitor the video signal to the VIDEO IN connector, connect video monitors to the VIDEO OUT connectors corresponding to the input signal.



TO USE A CAMERA WHICH CANNOT BE SYNCHRONIZED WITH THE VBS OR BLACK BURST SIGNAL

Connect the camera through the multi-signal distributor as illustrated below so that the SEG-2000A will synchronize with the camera.

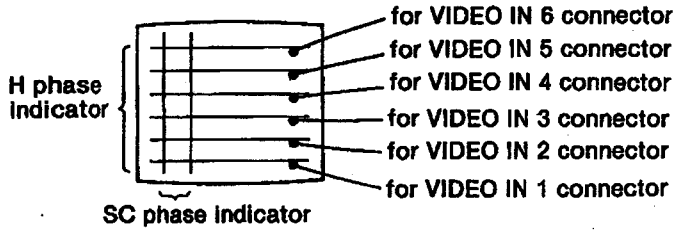


●The connection to other VIDEO IN connectors are the same as on the previous page.

ADJUSTMENTS

Adjust the phases, video level, hue, chroma level, etc., between the connected equipment.

1. Adjust the phases of all equipment as follows.
   1) Turn the power of all equipment on.
   2) Turn the SEG-2000A on.
   3) Set the PGM/PST switch to PGM.
   4) Set the PHASE INDICATION switch to ON. The phase indicator pattern will appear on the preset monitor screen.

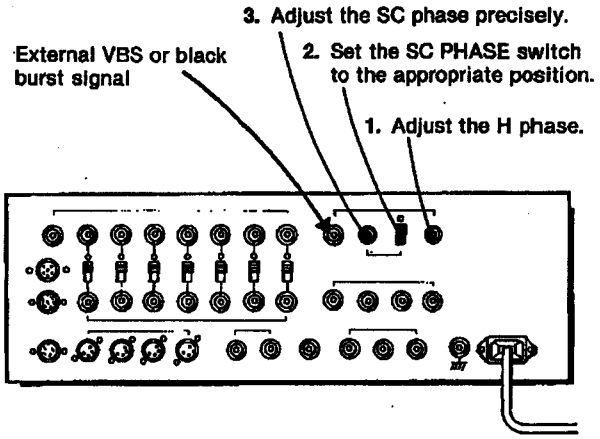

H phase indicator
for VIDEO IN 6 connector
for VIDEO IN 5 connector
for VIDEO IN 4 connector
for VIDEO IN 3 connector
for VIDEO IN 2 connector
for VIDEO IN 1 connector
SC phase indicator

   5) Press the PST bus line button "1".
   6) Turn the H phase control on the equipment connected to the VIDEO IN 1 connector so that the H phase indicator for the VIDEO IN 1 connector appears on the preset monitor screen.
   7) Turn the SC phase control on the same equipment so that the two lines of the SC phase indicator are as close as possible.
   ● The adjustment of the phases of the equipment connected to the VIDEO IN 1 connector is finished. For the equipment connected to the VIDEO IN 2 through 6 connectors, repeat steps 5), 6) and 7).
   ● Be sure to adjust the H phase first, then the SC phase.
2. Adjust the color of the video monitors.
   Use the color bars generated by the video camera or the camera control unit to adjust the hue so that the same color will be obtained on all video monitors.
3. Adjust the level—video output level, pedestal level, chroma level, hue, etc.—of all equipment so that the same level is obtained.

● When the input signal is the VB, the phase indicator does not function.

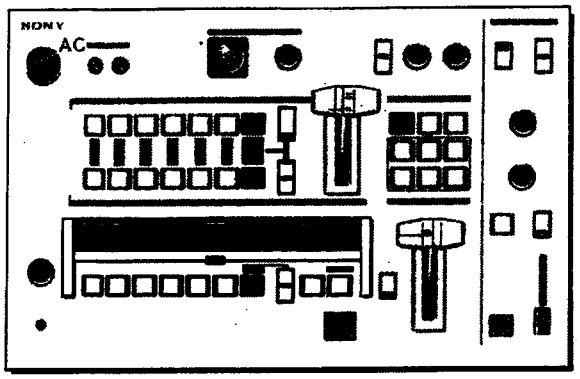
TO SYNCHRONIZE WITH AN EXTERNAL SYSTEM

To synchronize the SEG-2000A with an external VBS or black burst signal, align the H phase and the SC phase of the external signal with the H phase and SC phase of the PGM OUT signal.
● To use the phase indicator pattern for adjusting the phases, connect an external sync signal to one of the VIDEO IN 1 - 6 connectors and connect the loop-through output signal to the GEN LOCK IN connector.


3. Adjust the SC phase precisely.
External VBS or black burst signal
2. Set the SC PHASE switch to the appropriate position.
1. Adjust the H phase.

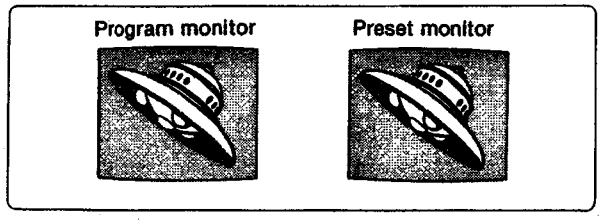
OPERATION

Set the POWER switch to the appropriate position depending on the power source to be used. The unit will be turned on and the buttons indicated below will light up.



To output a program picture

1. Set the PGM/PST switch to PGM.
2. Select the program picture with the PST bus button. (The picture of the preset monitor is simultaneously selected.) The corresponding PGM bus indicator will light.

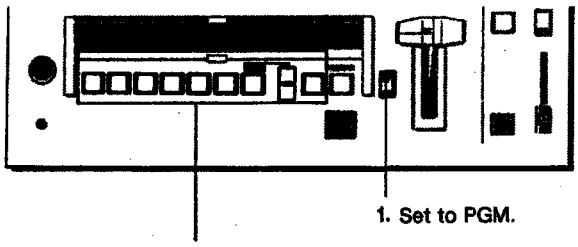


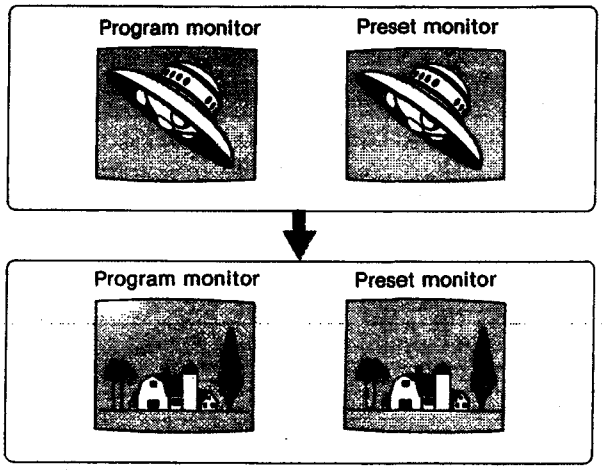
CUT IN

An instantaneous transition between two video sources can be made in the following two ways.

Using the PST bus buttons

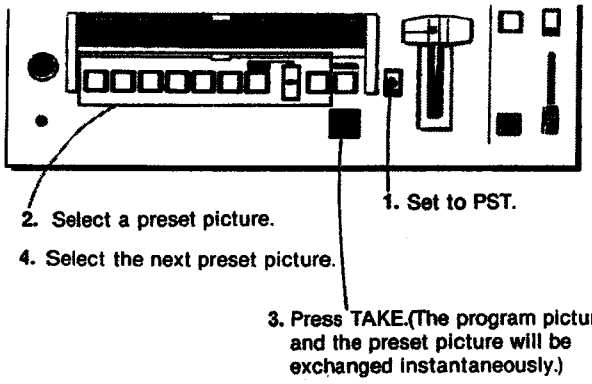
The program output can be switched directly to another output.

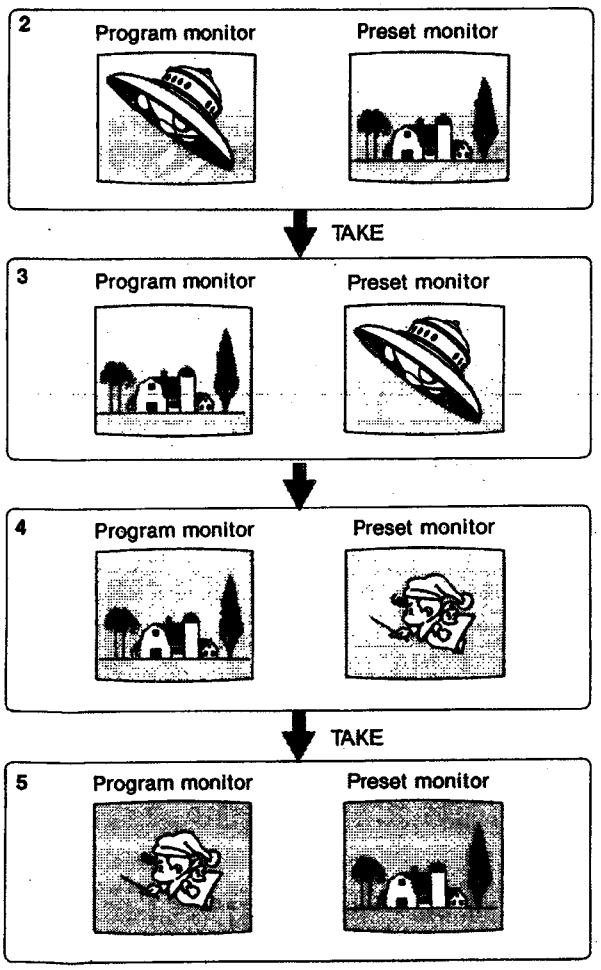

1. Set to PGM.
2. Select the program picture. (Each time a PST bus button is pressed, the pictures on the program monitor and the preset monitor will be switched to the other picture simultaneously.)



Using the TAKE button

You can check the picture to be output next on the preset monitor.

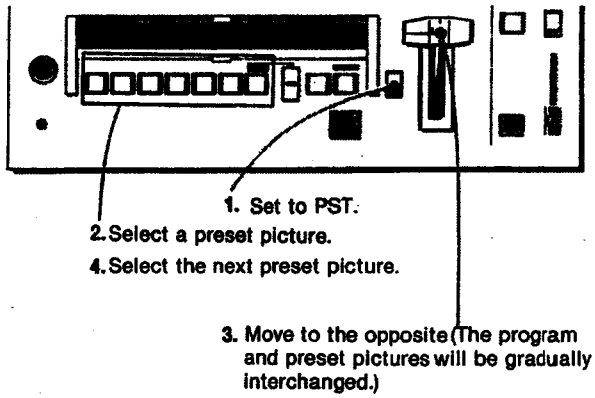

1. Set to PST.
2. Select a preset picture.
4. Select the next preset picture.
3. Press TAKE.(The program picture and the preset picture will be exchanged instantaneously.)
5. Press TAKE to cut in the next picture.

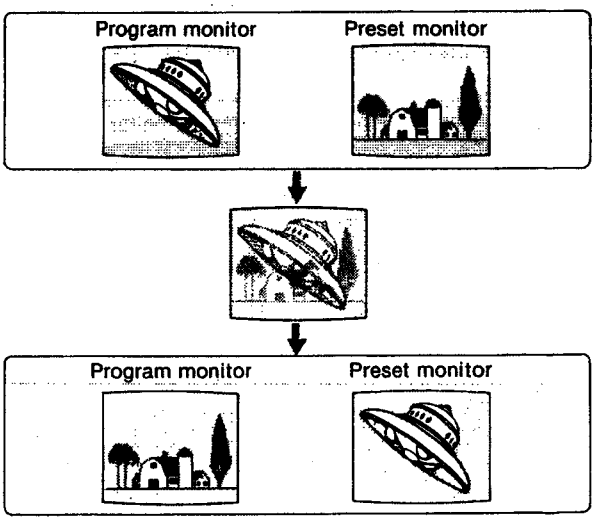


TO INTERCHANGE TWO PICTURES BY MIXING

The mixing can be done in the following two ways.

Using the PGM/PST MIX lever

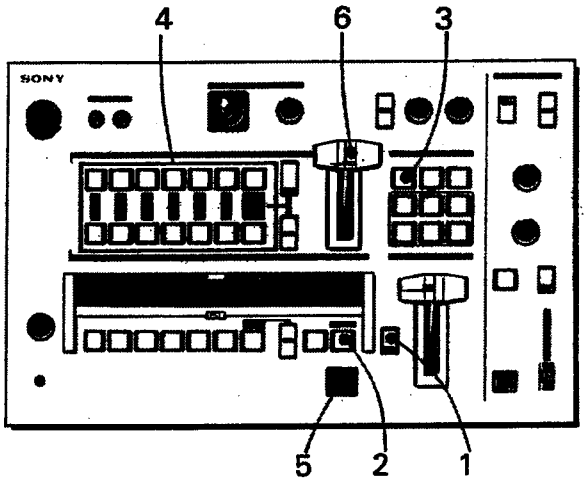

1. Set to PST.
2. Select a preset picture.
4. Select the next preset picture.
3. Move to the opposite.(The program and preset pictures will be gradually interchanged.)
5. Move to the opposite position.



- The speed of the interchange depends on how fast you move the lever.
- The uppermost and the lowermost positions of the PGM/PST MIX lever is not assigned to either the program or preset picture. The pictures will be interchanged each time the lever is moved from one position to the other.
- The signal connected to the AUX connector cannot be mixed with the VIDEO IN 1 - 6 inputs and the background color. When the PGM/PST MIX lever is moved to the end, the picture is exchanged instantaneously.

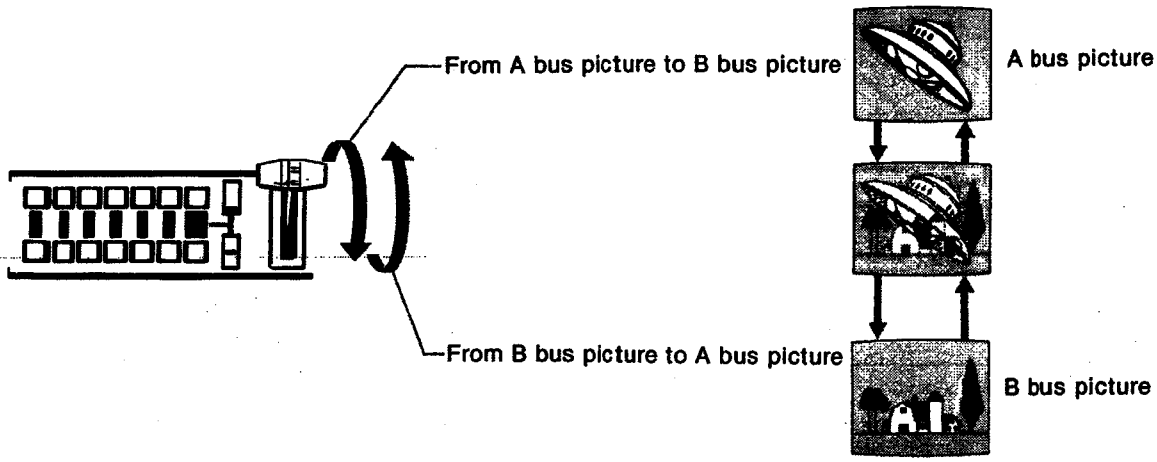
Using the MIX button

The picture selected by an A bus button can be gradually replaced by the picture selected by a B bus button, and vice versa.



1. Set the PGM/PST switch to PST.
2. Press the EFFECTS button.
3. Press the MIX button.
4. Select an A bus picture with an A bus button and a B bus picture with a B bus button.
5. Press the TAKE button.
6. Move the special effects control lever to the opposite position.
   When the lever is moved from the A bus side to the B bus side, the A bus picture on the program monitor screen will dissolve to the B bus picture, and vice versa.

- The button which corresponds to the picture being output from the PGM OUT connectors blinks.
- The speed of the interchange depends on how fast you move the lever.



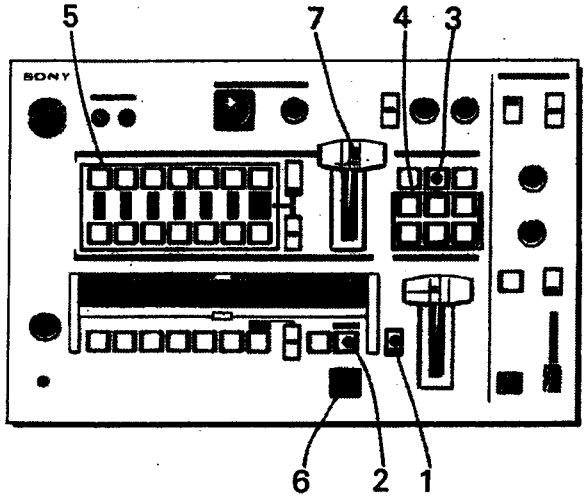
TO SWITCH CONSECUTIVELY THREE OR MORE PICTURES

Use the special effects control lever and the PGM/PST MIX lever.

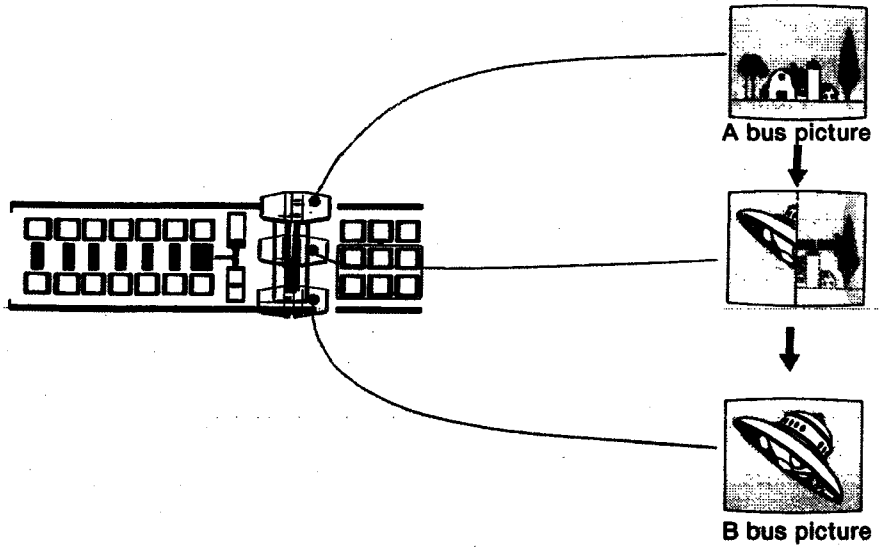
1. Switch the A bus picture to the B bus picture or the B bus picture to the A bus picture as in "Using the MIX button".
2. Select the picture to be output next with the PST bus button.
3. Move the PGM/PST MIX lever to the opposite position.

WIPE

Two inputs selected by an A bus button and a B bus button may be wiped as described below. Six different wipe patterns are available.

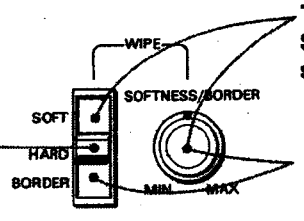


1. Set the PGM/PST switch to PST.
2. Press the EFFECTS button.
3. Press the WIPE button.
4. Select the desired wipe pattern.
5. Select an A bus picture with an A bus button and a B bus picture with a B bus button.
6. Press the TAKE button.
7. Move the special effects control lever to the opposite position. The program picture will be wiped by the selected wipe pattern. The button which corresponds to the picture being output from the PGM OUT connectors blinks.



The edge of the wipe pattern

The dividing line of the wipe pattern can be sharpened, softened or bordered with the WIPE edge selector and the SOFTNESS/BORDER control.



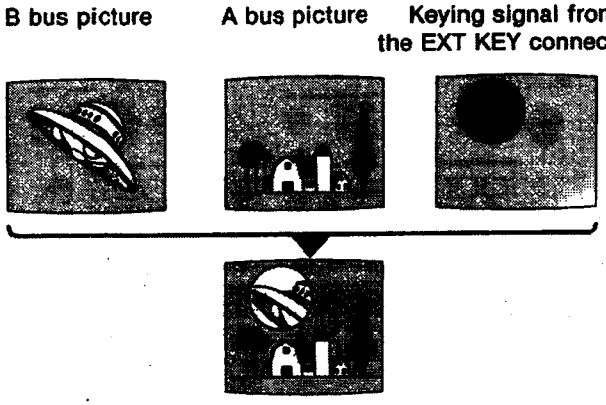
To sharpen the wipe pattern edge
Set the WIPE edge selector to HARD.

To soften the wipe pattern edge
Set the WIPE edge selector to SOFT and adjust the softness with the SOFTNESS/BORDER control.

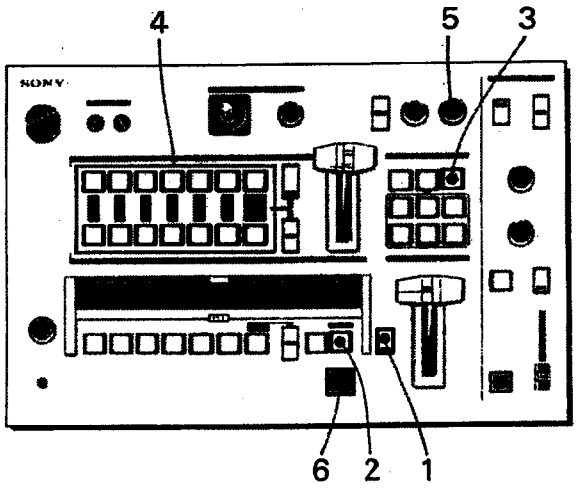
To border the wipe pattern edge
Set the WIPE edge selector to BORDER and adjust the width of the border with the SOFTNESS/BORDER control.
- Adjust the color of the border with the BACKGROUND COLOR joystick. The border color is the complementary color of the color selected by the joystick.

EXTERNAL KEY

The B bus picture is key-inserted in the A bus picture with the keying signal from the EXT KEY connector.



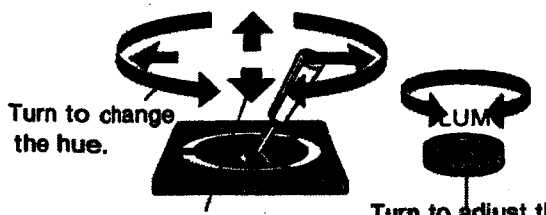
1. Set the PGM/PST switch to PST.
2. Press the EFFECTS button.
3. Press the EXT KEY button.
4. Select an A bus picture with an A bus button and a B bus picture with a B bus button. The buttons on the A bus line and B bus line blink.
5. Turn the EXT KEY LEVEL control so that the keying signal will appear clearly.
6. Press the TAKE button.

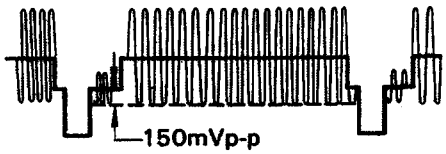


BACKGROUND COLOR

You can select the color of the background with the BACKGROUND mode select switch when the BACKGROUND button is pressed.
For a white background, set the switch to WHT.
For a black background, set the switch to BLK.
For a colored background, set the switch to COL and adjust the color with the BACKGROUND COLOR joystick and the LUM control.
Using the background color function, the picture can be faded in from a white, black or colored scene, or be faded out into a white, black or colored scene during mixing. It is also possible to color the keying signal of the external key.

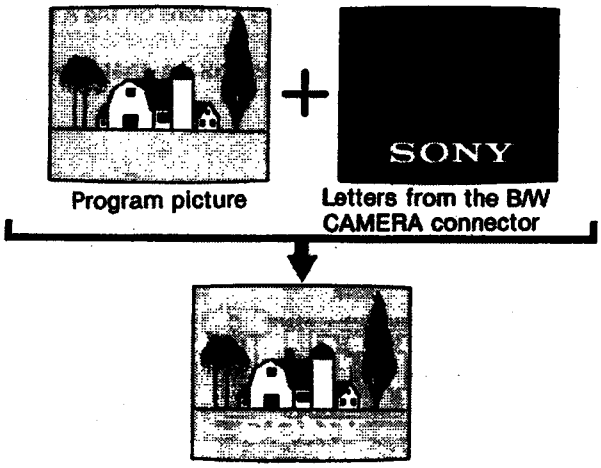
CAUTION
When using highly saturated color matting, check (on a waveform monitor) that the chroma level does not fall below the value shown in the illustration. If the LUM control is turned counterclockwise with the chroma level high, picture fluctuation may occur on the equipment connected to the SEG-2000A.


Turn to change the hue.
Tilt to adjust the chroma level.
LUM
Turn to adjust the luminance. (If you turn fully clockwise then turn back a little, optimum brightness will be obtained.)



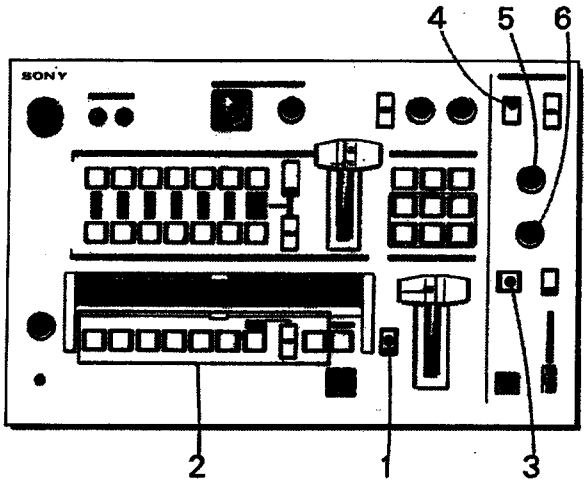
DOWNSTREAM KEYER

Monochrome letters or pattern from the B / W CAMERA connector can be inserted into the program or preset picture.



Preparations

Adjust the letters to be inserted by monitoring the preset picture.



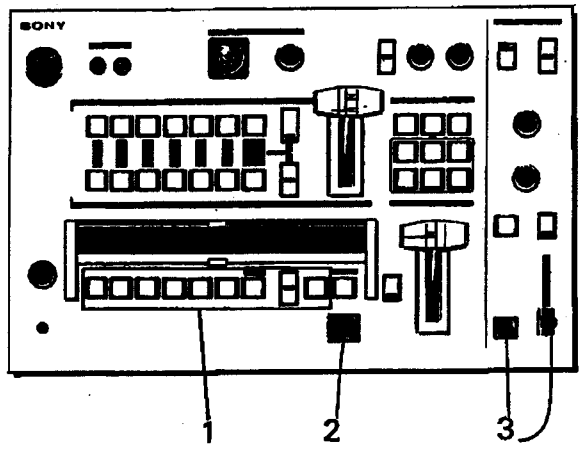
1. Set the PGM/PST switch to PST.
2. Select the picture on which the letters are inserted by pressing the appropriate PST bus button.
3. Press the PST CUT IN/OUT button, and the button will light.
4. Set the NORMAL/INVERT switch appropriately: To insert the black letters against a white background, set to NORMAL; to insert the white letters against a black background, set to INVERT.
5. Turn the KEY LEVEL control so that the letters to be inserted appear clearly.
6. Turn the INSERT LEVEL control to adjust the brightness of the letters to be inserted. Clockwise rotation gives a brighter picture.

Note

If the AUX input is selected on either of the PST bus line or the PGM bus line, the letters cannot be inserted in the preset picture. Because the keying signal is synchronized with the program picture, the preset picture, which is not synchronized with the program picture, will be unstable if the keying signal is inserted.
When both PST and PGM bus lines select the AUX input, the letters can be inserted into the preset picture.

To insert the letters on the program picture

Once you adjust the keying signal by monitoring the preset picture, insert the keying signal into the program picture as follows.

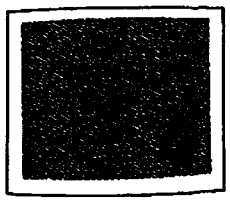


1. Select a picture on which the keying signal is inserted by pressing the appropriate PST bus button.
2. Press the TAKE button. The picture selected in Step 1 will be output as a program picture.
3. **To insert the keying signal with cut-in mode,** press the PGM CUT IN/OUT button. The button will light.
   To insert the signal with the fade-in mode (gradually), move the INSERT lever from the PGM side to the INSERT side. The PGM CUT IN/OUT button will light.

To remove the inserted signal quickly (the cut-out mode), press the PGM CUT IN/OUT button. The light of the button goes out.
To remove the inserted signal gradually (the fade-out mode), move the INSERT lever from the INSERT side to the PGM side. The light of the PGM CUT IN/OUT button goes out.

Where letters can be inserted

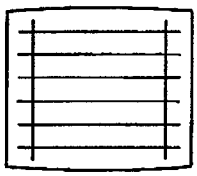
Shoot a white paper with the black and white camera for the downstream keyer and set the NORMAL/INVERT switch to INVERT.
Turn the KEY LEVEL control until the white paper appears on the monitor screen. You can insert the letters within this area.



● The pattern of the phase indicator is a guide to the area where you can enter letters.

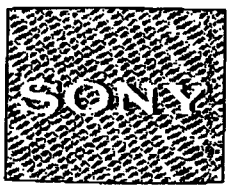
For a guide to positioning letters

1. Set the PGM/PST switch to PST.
2. Press the PST CUT IN/OUT button. The button will light.
3. Set the PHASE INDICATION switch to ON. The following pattern will appear on the preset monitor. Position the letters while referring to the vertical and horizontal lines.



Shadow effects

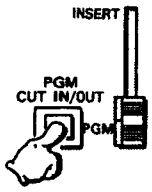
The addition of shadows may make the display of letters more effective, especially when inserting white letters or figures into a light picture.
Set the SHADOW switch to the appropriate position. To obtain a wide shadow, set the switch to WIDE; to obtain a narrow shadow, set it to NARROW. We recommend using the NARROW position for adding shadows to small or thin letters.



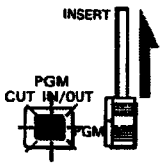
Combining the cut-in/out and fade-in/out operations

The PGM CUT IN/OUT button and the INSERT lever can be used together so that the following operations are possible.

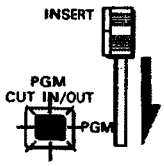
Cut-in/fade-out

1. 

The letters will be cut in.
- The PGM CUT IN/OUT button light.

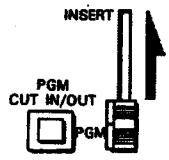
2. 

The picture does not change.

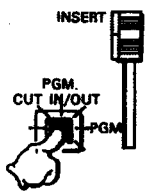
3. 

The inserted letters will be faded out.
- When the lever is moved to the PGM position, the PGM CUT IN/OUT button will go out.

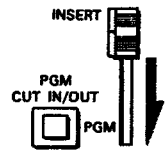
Fade-in/cut-out

1. 

The letters will be faded in.
- The PGM CUT IN/OUT button will light.

2. 

The inserted letters will be cut out.
- The light of the button will go out.

3. 

Return the lever to the PGM position.
The picture does not change.

SPECIFICATIONS

Signal system	EIA standards, NTSC color system
Switching system	Vertical blanking switcher
Effects	
MIX	Dissolve by special effects control lever and PGM/PST MIX lever
WIPE	6 wipe patterns (selectable) Wipe edge: The softness is continuously variable. Border line: Hue, chroma, luminance, width and amplitude are continuously variable.
EXT KEY	Input signal: 0.7 V p-p (VB) or 1.0 V p-p (VBS), 75 ohms, unbalanced, EXT KEY connector (BNC) Slicer circuit is included.
EXT WIPE	EXT WIPE IN connector (6-pin DIN) accepts 84 wipe patterns from WEX-2000 wipe pattern extender
DOWNSTREAM KEYER	Gen-lock with PGM bus line signal B/W CAMERA connector (6 pin) Output signal: HD, VD, 4 V p-p, 75 ohms, unbalanced Input signal: 0.7 V p-p (video), 75 ohms, unbalanced Shadow: Wide and narrow (selectable)
BACKGROUND COLOR	Chroma: 0 – 700 mV p-p (variable according to the hue level) Hue: 0° – 360° Luminance (Y): 0 – 500 mV continuously variable
Input signal	VIDEO IN 1 – 6 connectors (BNC type) × 6 0.7 V p-p (VB) or 1.0 V p-p (VBS), 75 ohms, unbalanced, with 75 ohm termination switch (The PHASE INDICATION switch does not function with the VB input signal.) VIDEO IN AUX connector (BNC type) × 1 1 V p-p (VBS), 75 ohms, unbalanced, with 75 ohm termination switch GEN LOCK IN connector (BNC type) × 1 1 V p-p (VBS) or 0.3 V/0.3 V (black burst), 75 ohms
Output signal	PGM OUT 1 – 3 connectors (BNC type) × 3 PST OUT 1, 2 connectors (BNC type) × 2 1 V p-p (VBS), 75 ohms, unbalanced VIDEO OUT connectors (BNC type) × 7 1 V p-p (VBS), 75 ohms,unbalanced (loop-through output of the corresponding VIDEO IN connector) BLACK BURST OUT 1 – 4 connectors (BNC type) × 4 Sync, burst 0.3 V p-p, 75 ohms, unbalanced V DRIVE OUT connector (BNC type) × 1 4 V p-p, 75 ohms, unbalanced
Tally/intercom	TALLY/INTERCOM 1 – 4 connectors (DIN, 4 pin) × 4 Maximum pick-up value in a relay 24 V 200 mA DC
DG, DP	1.5%, less than 1.5° (APL 10 – 90%)
Crosstalk (3.58 MHz)	Over −40 dB
Power requirements	120 V ac ±10%, 50/60 Hz 10 – 24 V dc BP-60 Battery pack (1 or 2)
Power consumption	AC operation: 37 W DC operation: 30 W
Operating temperature	0°C to 40°C (32°F to 104°F)
Dimensions	Approx. 482 × 168 × 266 mm (w/h/d) (19 × 6⅝ × 10½ inches)
Weight	Approx. 9.5 kg (20 lb 15 oz)
Supplied accessory	AC power cord 1

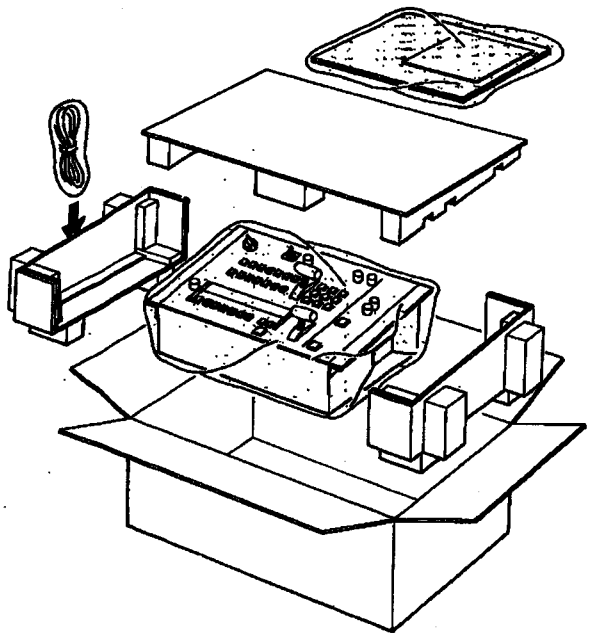
Design and specifications subject to change without notice.

RECOMMENDED EQUIPMENT AND ACCESSORIES

Color video camera DXC-1800, DXC-1850, DXC-6000, DXC-M3
Camera control unit CCU-1800, CCU-6000, CCU-M3
Black and white camera AVC-3250
Carrying case LC-2006
Battery pack BP-60
Color video monitor PVM series
Cables CCDD cable, CCF cable, UGC cable
Wipe pattern extender WEX-2000
Universal chroma keyer CRK-2000

REPACKING FOR SHIPMENT

The repacking procedure is subject to change. Refer to the packing instruction on the original carton as well as those shown here.



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